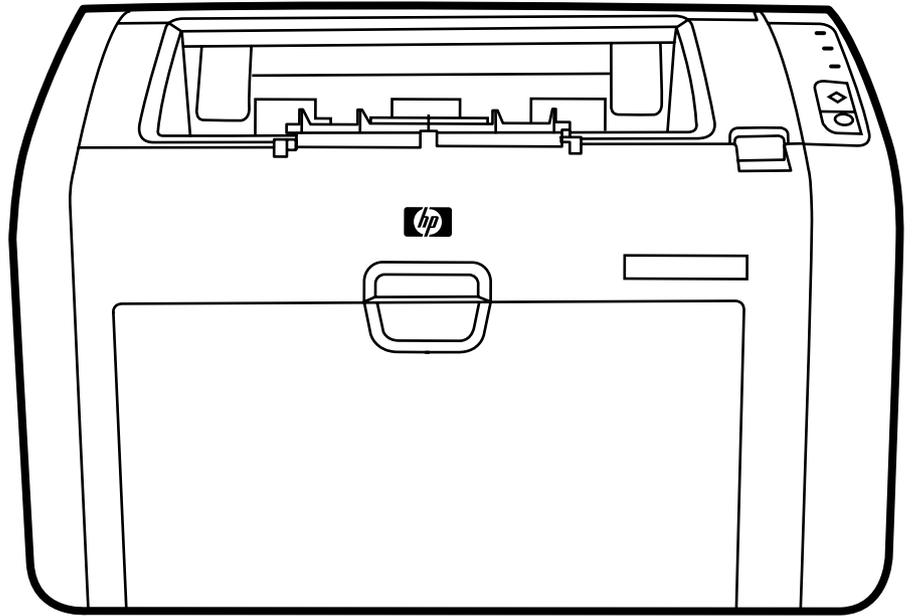


# HP LaserJet 1022, 1022n, 1022nw Printer Service Repair Workshop Manual

Product: 2005 HP LaserJet 1022, 1022n, 1022nw Printer Service Repair Workshop Manual

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## Service Manual



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# HP LaserJet 1022 series printers

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Service Manual



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# 1 Product Information

This chapter provides general product information for HP LaserJet 1022 series printer.

- [Product configurations](#)
- [Overview of product](#)
- [Product specifications](#)
- [Extended warranty](#)
- [Print-cartridge information](#)
- [Regulatory information](#)

# Product configurations

The HP LaserJet 1022 series printers are designed to print documents easily and with the laser quality that customers have come to expect from an HP LaserJet product. The following sections describe the configurations of the HP LaserJet 1022 series printers.

## HP LaserJet 1022 printer

The HP LaserJet 1022 (HP LJ 1022) is the base model of the HP LaserJet 1022 series printers. It offers the following features:

- Prints up to 18 pages per minute (ppm) for A4-sized media, and 19 ppm for letter-size media
- 10 seconds or less to first page out
- ProRes 1200 print quality setting that provides fine-line detail at 1200 x 1200 dots per inch (dpi)
- 250-sheet input capacity (75-g/m<sup>2</sup> [20-lb] media)
- Priority input slot
- 125-sheet output bin capacity
- Prints watermarks, booklets, and multiple pages per sheet (N-up), and can print the first page on different media from the remainder of the document
- 8 MB of RAM
- Host-based and PCL5e printer driver
- 26 PCL fonts
- 2,000-page print cartridge
- USB 2.0 Hi-Speed port

## HP LaserJet 1022n printer

The HP LaserJet 1022n (HP LJ 1022n) has all of the features of the HP LJ 1022, and also includes an internal network port.

## HP LaserJet 1022nw printer

The HP LaserJet 1022nw (HP LJ 1022nw) has all of the features of the HP LJ 1022n, and also includes integrated 802.11b/g wireless connectivity.



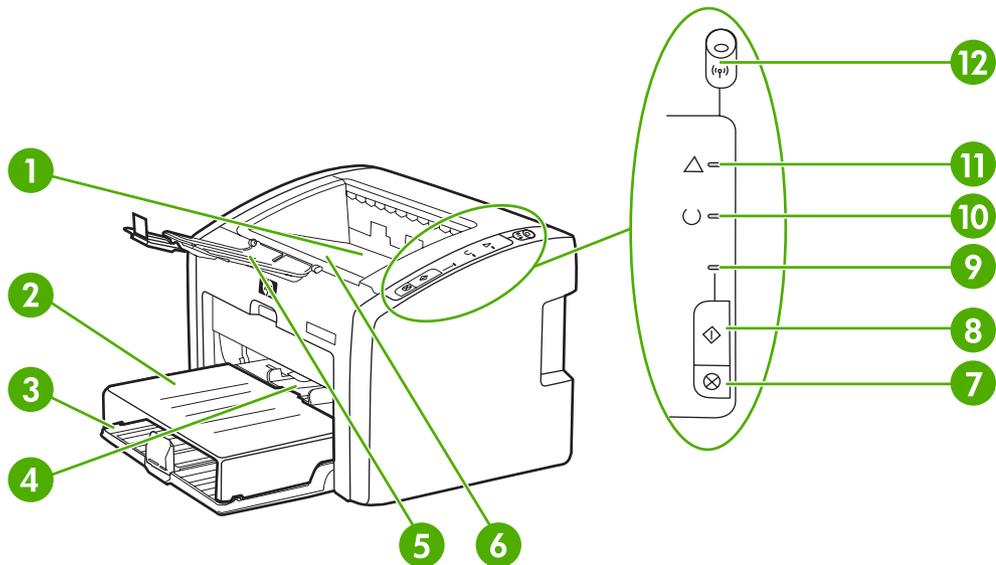
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**NOTE** For more information about this product, see the *HP LaserJet 1022nw Wireless User Guide*.

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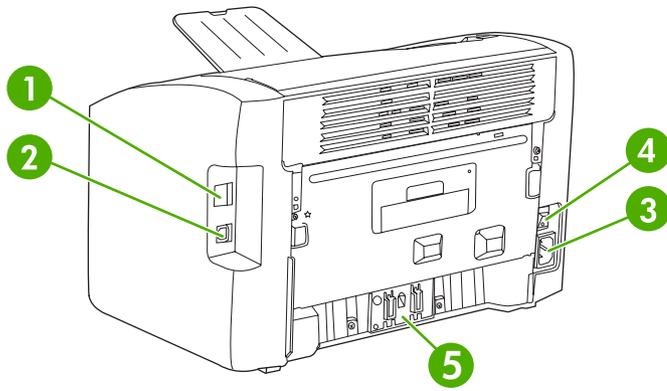
# Overview of product

## HP LaserJet 1022 series printers



**Figure 1-1** Front and right-side view

1	Output bin
2	Input-tray cover
3	250-sheet main input tray
4	Priority feed slot
5	Output-media support
6	Print-cartridge door
7	CANCEL JOB button
8	Go button
9	Go light
10	READY light
11	ATTENTION light
12	WIRELESS light (HP LJ 1022nw printer only)



**Figure 1-2** Back and left-side view

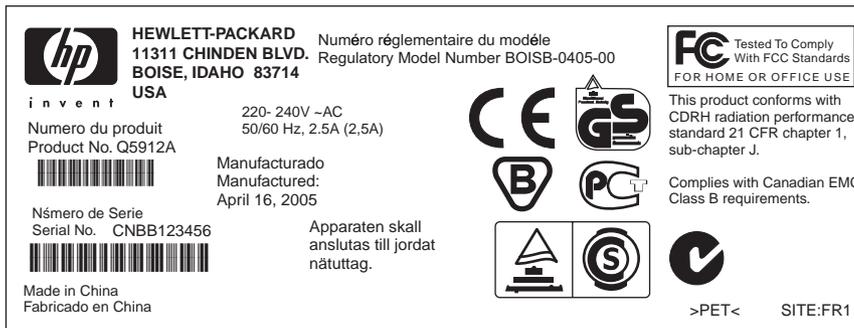
1	Internal network port (HP LJ 1022n and HP LJ 1022nw printers only)
2	USB port
3	Power receptacle
4	On/off switch
5	Separation pad

## Model and serial numbers

The model number and serial number are listed on an identification label located on the back of the product.

The serial number contains information about the country/region of origin and the revision level, production code, and production number of the product.

The label also contains power-rating and regulatory information.



**Figure 1-3** Model- and serial-number label

## Hardware description

The HP LaserJet 1022 series printers provide ProRes technology for 1200 dpi resolution.

The product prints at 19 ppm for letter-size paper and 18 ppm for A4-size paper. With 1200 dpi printing, the product has exceptional text and graphics print quality. The simple control panel and improved paper handling make this product very easy to use.

The main input tray has a 250-sheet (75-g/m<sup>2</sup>[20-lb] media) capacity for continuous, multiple-page printing. The priority input slot is used to manually feed single sheets of most recommended media. Both the main input tray and the priority input slot are center-justified for all supported media sizes. The output bin holds up to 100 sheets of 75-g/m<sup>2</sup> (20-lb) paper.

The product has a very fast first-page-out, at less than 8 seconds. The base memory contains 8 MB of RAM and an embedded 133 MHz processor.

The print engine has an average duty cycle of 1,000 pages per month (7,000 peak) or 50,000 total pages printed. The standard print-cartridge life is 2,000 pages, in accordance with ISO/IEC 19752.



**NOTE** Actual print cartridge life depends on specific usage.

## Firmware description

The firmware in the product includes these features:

- Host-based printing
- PCL Level 5e
- EconoMode functionality

# Product specifications

This section details the specifications for the HP LaserJet 1022 series printers.

## Physical specifications

**Table 1-1** Physical specifications

Model	Height	Depth	Width	Weight
HP LaserJet 1022 series printers	241 mm (9.5 inches)	245 mm (9.6 inches)	370 mm (14.6 inches)	6.3 kg (13.9 lb)

## Printer performance

**Table 1-2** Performance

Model	Print resolution (normal)	Print speed (A4-size media)
HP LaserJet 1022 series printers	1200 dpi (ProRes)	18 ppm

## Environmental specification

**Table 1-3** Environmental specifications

Category	Specification
Operating environment (unit plugged into an alternating current [ac] outlet)	■ Temperature: 10° to 32.5°C (50° to 90.5° F)
	■ Humidity: 20 to 80% relative humidity (no condensation)
Storage environment (unit not plugged into an AC outlet)	■ Temperature: 0° to 40°C (32° to 104°F)
	■ Humidity: 10 to 80% relative humidity (no condensation)

## Electrical specifications

**Table 1-4** Power requirements

Specification	110-volt models	220-volt models
Power requirements	110–127 V ( $\pm 10\%$ )	220–240 V ( $\pm 10\%$ )
	50/60 Hz ( $\pm 2$ Hz)	50/60 Hz ( $\pm 2$ Hz)
Rated current	4.0 amps	2.5 amps



**WARNING!** Power sources are not interchangeable.

**Table 1-5** Power consumption (average, in watts)<sup>1</sup>

Product model	Printing <sup>2</sup>	Ready <sup>2</sup>	PowerSave	Off
HP LaserJet 1022 series printers	300 W (110 V models)	4 W	4 W	0 W
	250 W (220 V models)			

<sup>1</sup> Values are subject to change. See [www.hp.com/support/lj1022](http://www.hp.com/support/lj1022) for current information.

<sup>2</sup> Power reported is highest value measured for printing using all standard voltages. HP LaserJet 1022 printer print speed is 19 ppm (letter size) and 18 ppm (A4 size).

## Acoustic emissions

**Table 1-6** Acoustic emissions<sup>1</sup>

Sound power level	Declared per ISO 9296
Printing	$L_{WA,d} = <6.2$ Bels (A) [62 dB (A)]
Ready	Inaudible
Sound pressure level—Bystander position	Declared per ISO 9296
Printing	$L_{pAm} = \leq 49$ dB (A)
Ready	Inaudible

<sup>1</sup> Values are subject to change. See [www.hp.com/support/lj1022](http://www.hp.com/support/lj1022) for current information. Configuration tested: HP LaserJet 1022 printer using the standard tray, A4 paper, and simplex, continuous printing. HP LaserJet 1022 printer print speed is 19 ppm (letter size) and 18 ppm (A4 size). During other operations, acoustic emissions might vary.

## Extended warranty

In most countries/regions, HP Care Pack provides additional coverage, beyond standard warranty for the HP device and for all HP-supplied internal components. This hardware maintenance can uplift the standard warranty, for example, from next-day to same-day service, or extend it up to 5 years. The HP Care Pack can provide Express Exchange or onsite service. For more information, see the support flyer that came with the device for the appropriate phone numbers and information.

# Print-cartridge information

The print cartridge is designed to simplify replacement of the major consumable parts. The print cartridge contains the printing mechanism and a supply of toner.

The standard print-cartridge life is 2,000 pages, in accordance with ISO/IEC 19752.



---

**NOTE** Actual print cartridge life depends on specific usage.

---

## Refilled print cartridges

While Hewlett-Packard does not prohibit the use of refilled print cartridges during the warranty period or while the product is under a maintenance contract, use of refilled cartridges is not recommended for the following reasons:

- Repairs resulting from the use of refilled cartridges are not covered under Hewlett-Packard warranty or maintenance contracts.
- Hewlett-Packard has no control or process to ensure that a refilled cartridge functions at the high level of reliability of a new HP LaserJet print cartridge. Hewlett-Packard also cannot predict the long-term reliability effect on the product from using the different toner formulations that are found in refilled cartridges.
- The print quality of HP LaserJet print cartridges influences the customer's perception of the product. Hewlett-Packard has no control over the actual print quality of a refilled cartridge.
- Parts that are critical to print quality might not be replaced when the cartridge is refilled with toner.

## Recycling print cartridges

In order to reduce waste, Hewlett-Packard offers a recycling program. Cartridge components that do not wear out are recycled. Plastics and other materials are recycled. Hewlett-Packard pays the shipping costs from the user to the recycling plant (within the United States). To join this recycling effort, follow the instructions inside the print cartridge box. See [www.hp.com/recycle](http://www.hp.com/recycle) for more information.

# Regulatory information

## FCC compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.



---

**NOTE** Any changes or modifications to the printer that are not expressly approved by Hewlett-Packard could void the user's authority to operate this equipment. Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC rules.

---

## Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

«Conforme à la classe B des normes canadiennes de compatibilité électromagnétiques. «CEM».»

## Korean EMI statement

사용자 안내문 (B급 기기)

이 기기는 비업무용으로 전자파장해 검정을 받은 기기로서, 주거 지역에서는 물론 모든 지역에서 사용할 수 있습니다.

# Laser statement for Finland

## LASERTURVALLISUUS

### LUOKAN 1 LASERLAITE

#### KLASS 1 LASER APPARAT

HP LaserJet 1022, HP LaserJet 1022n, HP LaserJet 1022nw -laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisessa käytössä kirjoittimen suojakoteloitinta estää lasersäteiden pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

#### VAROITUS!

Laitteen käyttäminen muulla kuin käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

#### WARNING!

Om apparaten används på annat sätt än i bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

#### HUOLTO

HP LaserJet 1022, HP LaserJet 1022n, HP LaserJet 1022nw-kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

#### VARO!

Mikäli kirjoittimen suojakotelo avataan, olet alttiina näkymättömälle lasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

#### WARNING!

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen. Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista:

Aallonpituus 785-800 nm

Teho 5 mW

Luokan 3B laser



## 2 Installation and Operation

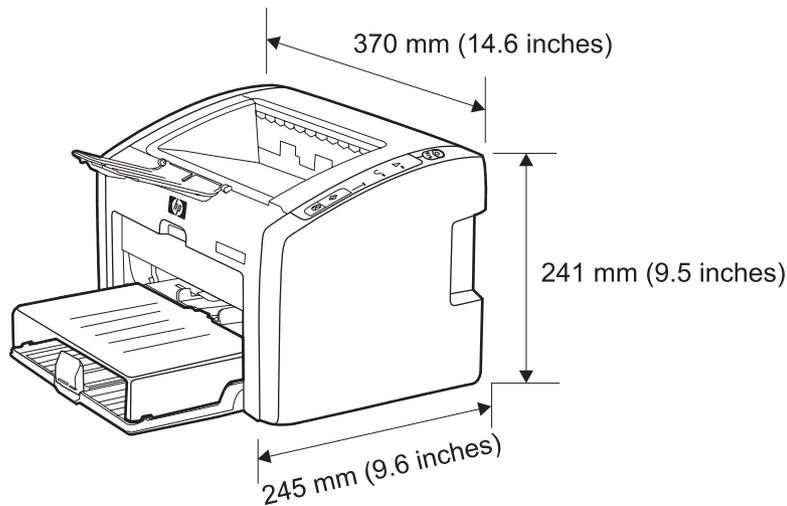
This chapter provides an overview of the appropriate operating environment, describes the control panel, describes media requirements, and describes how to load print media.

- [Operating environment](#)
- [Identifying the control-panel components](#)
- [Media specifications](#)
- [Guidelines for using media](#)
- [Loading media](#)
- [Setting media types](#)

## Operating environment

Place the product on a sturdy, level surface in a well-ventilated area that meets the following environmental requirements:

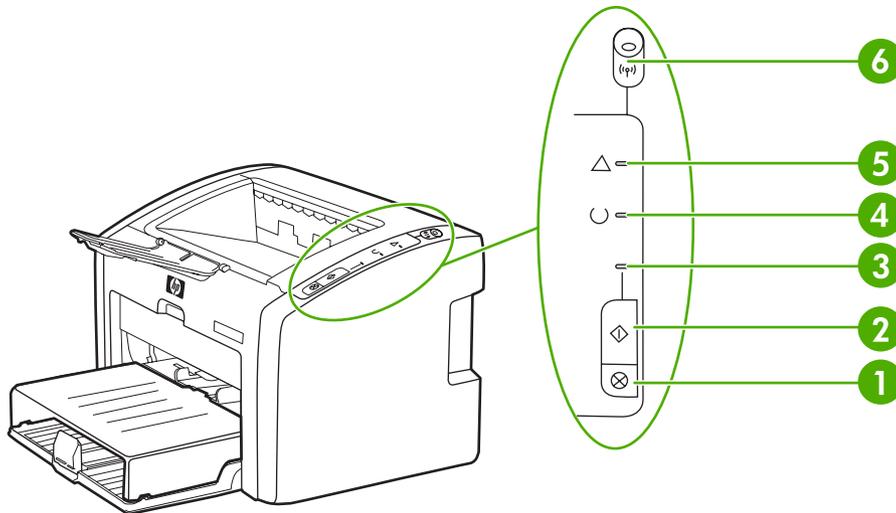
- Temperature: 10° to 32.5°C (50° to 90.5°F)
- Humidity: 20 to 80% relative humidity (no condensation)
- Away from direct sunlight, open flames, and ammonia fumes
- With sufficient space around the product to accommodate proper access and ventilation requirements



**Figure 2-1** Dimensions of product

## Identifying the control-panel components

The printer control panel has three lights and two buttons. The HP LaserJet 1022nw has an additional light (**WIRELESS** light) at the top of the control panel. These lights produce patterns that identify printer status.



**Figure 2-2** Control-panel lights and buttons

1	<b>CANCEL JOB</b> button: When the printer is processing data, press the <b>CANCEL JOB</b> button to cancel the print job.
2	<b>Go</b> button: To print a demo page or to continue printing while in manual feed mode, press and release the <b>Go</b> button. To print a configuration page, press and hold the <b>Go</b> button for 5 seconds.
3	<b>Go</b> light: Indicates that the product is receiving data when flashing.
4	<b>READY</b> light: Indicates that the product is ready to print.
5	<b>ATTENTION</b> light: Indicates that the input tray is empty, print-cartridge door is open, print cartridge is missing, or other errors.
6	<b>WIRELESS</b> light: (HP LJ 1022nw printer only) When the wireless light is on solid, a wireless connection has been established. When the wireless light is off, wireless operation is disabled. When the wireless light is flashing, the product is trying to establish a wireless connection.

# Media specifications

The printers accept a variety of media. Properties such as weight, grain, and moisture content are important factors that affect printer performance and output quality. Media should conform to the guidelines in the user guide. Media that does not meet HP guidelines might cause poor print quality, increased media jams, or premature wear on the product, which might require printer repair.



**CAUTION** Damage that is caused by using media that does not meet HP specifications is not covered by the HP warranty or service agreements.

## Supported media sizes

The printer supports media within this size range:

- **Minimum:** 76 x 127 mm (3 x 5 inches)
- **Maximum:** 216 x 356 mm (8.5 x 14 inches)

**Table 2-1** Media sizes

Paper type	Metric	English
Letter	216 x 279 mm	8.5 x 11 inches
Legal	216 x 356 mm	8.5 x 14 inches
Executive	184 x 267 mm	7.25 x 10.5 inches
A4	210 x 297 mm	8.25 x 11.75 inches
COM10 envelopes	105 x 241 mm	4.13 x 9.5 inches
DL envelopes	110 x 220 mm	4.33 x 8.67 in
C5 envelopes	162 x 229 mm	6.4 x 9 inches
B5 envelopes	176 x 250 mm	6.9 x 9.85 inches
Monarch envelopes	98.5 x 191 mm	3.88 x 7.5 inches
Labels	(216 x 279 mm)	(8.5 x 11 inches)
Custom-size media	custom (within acceptable range)	custom (within acceptable range)



**NOTE** Narrow and heavy media can cause the printer to print more slowly.

# Guidelines for using media

HP LaserJet printers produce documents that have excellent print quality. They can print on a variety of media types, such as paper (including up to 100% recycled fiber content paper), envelopes, labels, transparencies, and custom-sized media.

## Paper and transparencies

Paper must be of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, holes, and curled or bent edges. Check the label on the paper package for details about the type of paper (such as bond or recycled).

Some paper causes print-quality problems, jamming, or damage to the printer.



**NOTE** Do not use letterhead that is printed with low-temperature inks, such as those used in some types of thermography, raised letterhead, or colored paper or preprinted forms that use inks incompatible with the printer temperature, which is 200°C (392°F) for 0.1 second.

Transparencies must be able to withstand 200°C (392°F), the maximum print temperature.

## Common media problems table

Symptom	Problem with paper	Solution
Poor print quality or toner adhesion, or problems with feeding	Too moist, too rough, too smooth, or embossed faulty paper lot	Try another kind of paper that is between 100 and 250 Sheffield and has 4% to 6% moisture content.
Dropouts, jamming, or curl	Stored improperly	Store paper flat in its moisture-proof wrapping.
Increased gray background shading	Might be too heavy	Use lighter paper.
Excessive curl, or problems with feeding	Too moist, wrong grain direction, or short-grain construction	Use long-grain paper or change the media type to light.
Jamming, or damage to printer	Cutouts or perforations	Do not use paper that has cutouts or perforations.
Problems with feeding	Ragged edges	Make sure that the sliding media input guides on the input tray are correctly adjusted.
Moisture on the trailing edge of the paper	Too moist (media is steaming when it exits the printer)	Store paper in a low humidity area or air tight container or change the media type to light.

## Labels

When selecting labels, consider the following factors:

- **Adhesives:** The adhesive material should be stable at 200°C (392°F), the printer's maximum temperature.
- **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
- **Curl:** Before printing, labels must lie flat with no more than 13 mm (0.5 inch) of curl in any direction.

- **Condition:** Do not use labels with wrinkles, bubbles, or other indications of separation. Never use a sheet of labels that has already been run through the printer.

## Envelopes

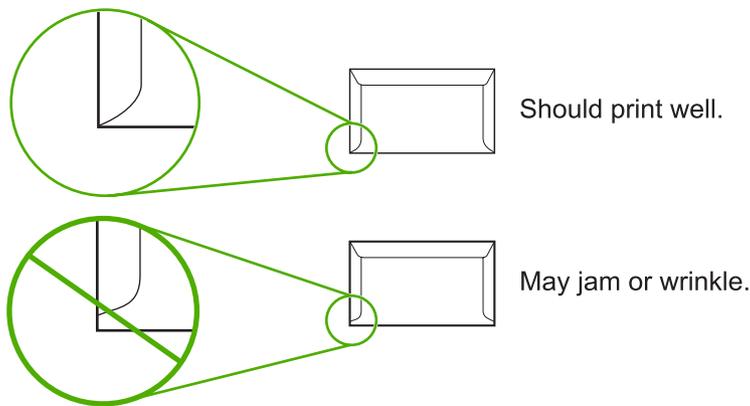
Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers but also within a box from the same manufacturer. Successful printing on envelopes depends on the quality of the envelopes. When selecting envelopes, consider the following factors:

- **Weight:** The weight of the envelope paper should not exceed 105 g/m<sup>2</sup> (28 lb), or jamming might result.
- **Construction:** Before printing, envelopes should lie flat with less than 6 mm (0.25 inch) curl and should not contain air. Envelopes that trap air may cause problems.
- **Condition:** Make sure that the envelopes are not wrinkled, nicked, or otherwise damaged.
- **Sizes:** From 90 x 160 mm (3.5 x 6.3 inches) to 178 x 254 mm (7 x 10 inches).

Store envelopes flat. If air is trapped in an envelope, creating an air bubble, the envelope might wrinkle during printing.

### Envelopes with double-side seams

An envelope with double-side-seam construction (vertical seams at both ends of the envelope rather than diagonal seams) is more likely to wrinkle. Make sure the seam extends all the way to the corner of the envelope as shown in top figure of the following illustration:



### Envelopes with adhesive strips or flaps

Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the heat and pressure in the printer: 200°C (392°F). The extra flaps and strips might cause wrinkling, creasing, or jams.

## Card stock and heavy media

For optimum performance, do not use paper heavier than 157-g/m<sup>2</sup> (42-lb). Paper that is too heavy might cause misfeeds, stacking problems, jams, poor toner fusing, poor print quality, or excessive mechanical wear.

### Card-stock construction

- **Smoothness:** 135- to 157-g/m<sup>2</sup> (36- to 42-lb) card stock should have a smoothness rating of 100 to 180 Sheffield. 60- to 135-g/m<sup>2</sup> (16- to 36-lb) card stock should have a smoothness rating of 100 to 250 Sheffield.
- **Construction :** Card stock should lie flat with less than 5 mm (0.2 inch) of curl.
- **Condition:** Make sure that the card stock is not wrinkled, nicked, or otherwise damaged.
- **Sizes:** Only use card stock within the following size ranges:
  - **Minimum:** 76 x 127 mm (3 x 5 inches)
  - **Maximum:** 216 x 356 mm (8.5 x 14 inches)

### Card-stock guidelines

- Set margins at least 2 mm (0.08 inch) away from the edges.